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BULLETIN No. 50.

The Pressure of Population

Its Effects on Rural Economy in Gorakhpur District

By

JAI KRISHNA MATHUR, M.A.

formerly of the Department of Economics, Lucknow University

WITH AN INTRODUCTION

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RADHAKAMAL MUKERJEE, M.A., PH.D.,

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ALLAHABAD:

THE SUPERINTENDENT, PRINTING AND STATIONERY, UNITED PROVINCES

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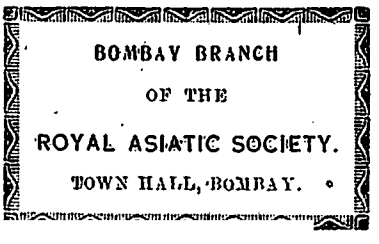

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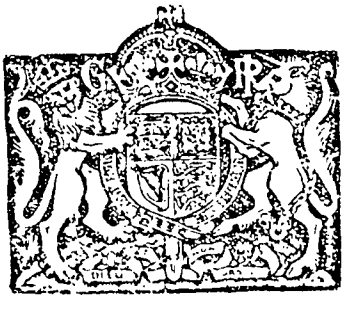

ALLAHABAD:

THE SUPERINTENDENT, GOVERNMENT PRESS, UNITED PROVINCES

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INTRODUCTION.

At a conference in the Government House, Lucknow, presided over by His Excellency the Governor, which was convened in February last to discuss the question of economic research, I had an occasion to refer to the economic and social surveys, undertaken by students of the Lucknow University, which contain some interesting economic data for the province. Mr. G. Clarke, Director of Agriculture, has since taken a keen interest in these surveys and the publication of this monograph is due mainly to his suggestion.

The problem of over-population has become acute in many tracts of the Ganges Valley, which is at once the largest and most densely populated plain in the world. As the pressure of population on the soil increases the whole fabric of agricultural and rural life undergoes a change. There is more often an attempt to meet the situation by both expansion of cultivation and multiple cropping. Sometimes there is a continuous cityward drift or emigration to more distant regions. Sometimes, again, the optimum density is overstepped to such an extent that a steady increase of mortality and even a reduction of birth-rate are discernible; while the slightest variations in the cropped areas due to deficiency and irregularity of rainfall are accompanied by marked disturbances in the trends of natality and mortality.

Intensive enquiries have been undertaken by post-graduate students of the Department of Economics in the Lucknow University in Gorakhpur, Jaunpur and Benares with a view to analyse the effects of the pressure of population on agriculture, on the social economy and on the health and vitality of the people. In very congested tracts, where the standard of living does not limit population growth, human numbers are governed by the same laws and processes which regulate animal numbers. The population problem here becomes a question of close and almost organic

adjustment to climate, soil and water-supply. It appears that when there is over-population in a region, population is brought back to an optimum density by two kinds of checks. Many areas show what may be called the rodent type of check viz., an increase of mortality and especially the scourge of epidemics like plague, influenza and malaria. The other type of check viz., the fruit-fly type is shown in a lowering of the birth-rate with density. In the more congested areas of the Ganges plain, both these kinds of checks are now in operation adjusting human numbers to the limitation of food supply. The Malthusian postulate that population tends to increase up to the limit of subsistence is not true. Both birth and death rates seem to strike out a normal balance of numbers with the region before an actual shortage of food-supply acts as a direct check.

The present survey of economic conditions in certain congested areas in Gorakhpur district throws a flood of light on such problems and on the economic and social deterioration which over-population involves. Comparing Abul Fazl's figures and the present day district statistics Moreland concluded that the Ganges-Gogra Doab has had a phenomenal development during the last four centuries. During this period cultivation has increased at least seventeen fold and more probably forty fold,—a figure which indicates almost continuous jungle with out-posts of cultivation at rare intervals and utmost a very narrow-strip of settled country along the northern bank of the Gogra in the Moghul period. Certain tahsils of Gorakhpur with a density of more than a thousand persons per sq. mile show some of the highest records of rural density in the world. The expansion of cultivation seems to have reached its maximum under the present conditions in many tahsils. With the growth of population fractionalization of holdings has gone to grotesque lengths. In the particular village surveyed the average holding comes to 0·29 acre. The average cultivated area per individual is 0·27 acre. The average holding per cultivator is something like 0·52 acre. In pargana Sidhua Jobna, the average holding has been found at the time of the last settlement to be 1·3 acres, in Hata it is ·9 acre and in

Salimpur ·65 acre. The continuous sub-division is in its most aggravated form a most unfortunate development since the last settlement. "Everything is divided—shares, holdings, plots, tenants, houses, groves, ponds and even trees. And where there is no formal partition there is always an informal one." The seriousness of the situation will be brought home when we realize that the minimum economic holding has been estimated by the Banking Enquiry Committee for Gorakhpur division as 4 acres and 3·9 acres for statutory and occupancy tenants respectively and that the average holding is actually below the minimum economic unit. The difference between the size of the average holding and the minimum economic holding which is the best rough and ready measure of proverty and indebtedness increases, generally speaking, with the density of population in the various tahsils of Gorakhpur.

Such toy holdings not only make agriculture inefficient but absolutely make it impossible for the cattle to be maintained in adequate numbers. During the last few decades the number of cattle and live stock shows a steady decrease sub-division by sub-division. The following figures would show the cattle plough and grazing statistics for average holdings in Gorakhpur, Meerut and Lucknow divisions :—

	Plough and cart bullocks.	Cows and cow-buffaloes.	Plough.	Share of waste available for grazing.
Gorakhpur	1·2	1·3	0·82	1·1
Meerut	2·0	2·1	0·84	2·3
Lucknow	2 1	2·1	1·04	3·3

It is obvious that the Gorakhpur peasant possesses fewer bullocks, cows and ploughs than any other; the practice of lending bullocks to one another for agricultural operations is widespread. In a village surveyed in tahsil Deoria while about 50 cultivators have a pair of bullocks 75 have only one each and 40 have none

In pargana Haveli men who own only a single bullock hold 8 per cent. of the cultivated area. For the district as a whole, the recent cattle census (1930) has shown a reduction in the number of breeding buls by 11 per cent; cows and bullocks have increased between 1925 and 1930 by only 1 and 2 per cent. respectively. While the cultivated area has remained almost the same, the number of ploughs has increased by 6 per cent. This seems to point to both the disruption of the joint family and the fractionalisation of holdings. The fragments of land have become so small that the cultivator has sometimes to dismiss the cattle and use the spade. If this process continued women in Gorakhpur, as in Shantung in China, might be compelled to draw the plough.

Another serious evil of rural over-population is to be found in the enormous pressure of accommodation on village homesteads and cottages. In many villages which have been intensively surveyed the average number of persons living in a hut varies from 8 to 12 and the inmates sleep along with cattle and other live-stock. The problem of rural housing has hardly attracted the attention it deserves. In most of the congested tracts the homesteads are seem to be huddled together at all angles to utilize the space as far as possible without any attention to drainage and ventilation.

In Bengal we often find huts isolated from one another with a spacious courtyard, the cowsheds and out-houses, standing sometimes in the same quadrangle but more often a little back from it, while each family may have a pond for its exclusive use. In Bihar we also find less congestion of the village site, there being open spaces in the middle of the village with a tank, temple, or club house. In this area open spaces are hardly to be met with in the *abadi*, the huts being crowded together, while the streets are narrow and tortuous, and sometimes impassable due to the collection of refuse water from the house drains and the excreta of village cattle. To many peasants the huts are simply places where one can stretch his legs and sleep in the night and in several instances the loss of privacy blunts all sense of shame and decency. Men and women, young and old, sometimes may be seen packed together along with cattle and goats in winter. And the home

that should radiate noble social and aesthetic influences is a den of misery and disease where people breed and die like fruit-flies.

Yet the peasant in Gorakhpur cannot be said to resign himself only to fate and capricious nature. On the whole Gorakhpur is well protected from drought but in years of deficient and irregular rainfall the peasant constructs an extraordinary number of new wells. The percentages of irrigated to estimated irrigable areas reached the high figures of 87 and 85 in the years of scarcity 1907-08, 1916-17 and 1918-19. Thus each year of scarcity leaves a legacy of defences behind and the district gradually comes to be insured against distress. In fact Gorakhpur usually maintains the first place in the Province in the matter of the construction of new wells. In thirty years, 1889—1919, as many as 13,000 wells were constructed in the eastern tahsils. Well irrigation has, indeed, increased phenomenally in the congested tahsils of Gorakhpur district where a great improvement has taken place *pari passu* in agriculture. Salempur Majhauli shows an increase of its double cropped area from 15 to 28 per cent. in thirty years 1889—1919. Wastes and fallows have also been utilised. Both extensive double cropping and the utilisation of waste-lands have in fact operated as safety valves under the condition of the growing burden of population on the soil. Remarkable improvements in cropping have accompanied the increase of population such as the substitution of cereals for gram and oil-seeds, increase of sugarcane, pea and maize cultivation and the substitution of rice for less valuable millets.

The relative importance of rice, sugarcane, gram and maize in contributing to high agricultural productivity and density can be adequately understood if we compare the selection and rotation of crops in different parts of the Ganges plain. As a general rule as density of population increases in the eastern districts of the United Provinces, there is a substitution of heavy-yielding for light-yielding crops. Thus the areas of gram and pea, maize and early rice have rapidly increased in Gorakhpur, Jaunpur and Benares, a response to the increasing pressure of population. Moreover pure wheat is gradually substituted for mixed wheat in

all these districts. Thus the peasant makes a more and more intensive and economical use of land as he has more mouths to feed, decade by decade. There necessarily must come a time, however, when his intensive subsistence farming will no more be able to feed his growing numbers. Evidences of this are already visible in various areas in Gorakhpur where the peasant can no longer subsist himself or feed his family on his under-sized holding. He then emigrates to distant areas in search of livelihood and regularly remits money home to feed his family. Emigration has been brisk for some decades in Gorakhpur. In one particular village surveyed, where population is denser than the average, no less than 200 persons emigrate annually. While emigration relieves the pressure of population, it also contributes to a large addition of income to the agriculturists who stay at home. In 1928-29, 65 lakhs of rupees were remitted by money order in Gorakhpur, the bulk coming from emigrant labourers.

In the Meerut division the peasant depends much more than in Gorakhpur upon other occupations than agriculture, engaging in trade and small-scale industries when it is in the interests of the farm to do so. This is shown by the following table of occupations of Meerut and Gorakhpur divisions (shown as percentages) given in the report on the agricultural conditions of the province prepared for the Royal Commission on Indian Agriculture.

Gorakhpur.	Rent receivers.	Cultivation.	Agricultural.	Rearing of live stock.	Industry.	Trade.	Transport.	Public administration.	Miscellaneous.	Total.
Gorakhpur ..	1	75	10	1	6	3	..	1	3	100
Meerut	3	42	9	2	21	6	1	3	13	100

In Gorakhpur, the excessive dependence upon the farm and the lack of initiative to strike out new lines have gone together, and the result is an overcrowding of agriculture and diminution of sizes of holdings and their pepper-pot distribution, which have

led to a general lowering of the standard of living. Rice mills and sugar factories are neither sufficiently numerous nor adequately developed to relieve the pressure of population in Gorakhpur; while trade and industry cannot flourish as the average small holder has little money to spare and spend. The improvement of technical conditions of small industries and the opening of new supplementary occupations and trades for the peasant can alone prevent the overcrowding of agriculture, which is responsible for his depressed condition. But where man breeds like field rats and rabbits without prevision even wholesale emigration or industrialisation become mere palliatives. The masses must understand the economy of health and reproduction in order that they may get a release from those destructive natural checks, which are now maintaining a numerical balance of men in over-crowded regions much in the same manner as these operate in the case of animals.

RADHAKAMAL MUKERJEE.

UNIVERSITY OF LUCKNOW :

April, 1931.

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THE PRESSURE OF POPULATION

Its effects on rural economy in Gorakhpur district

CHAPTER I.

THE GROWTH OF POPULATION.

THE problem of the capacity of the world to feed a continuously expanding population is not a new one. It was reiterated in a forcible manner in 1898 by the late Sir William Crookes, who in his address before the British Association discussed the ultimate curtailment of the wheat supply through the exhaustion of soil nitrogen. It was nothing more than an academic attention that the world paid to his views. The eminent scientist, however, neglected a factor, then imperfectly appreciated, namely, that under any of the conservative systems of cultivation adopted and practised in old settled countries, land does not totally exhaust itself. Soil, under the present farming methods and practices, retains a particular level of productive capacity for a very long time. Modern researches in the domain of soil bacteriology and chemistry have dismissed our fear regarding a speedy exhaustion of soils.

The spell of Malthusianism cast its shadow over orthodox economics for an age, but social optimism ultimately gained the day with the introduction of scientific agriculture as well as the export of food-stuffs from the tropical and sub-tropical regions. Recently, however, interest has again been aroused in the problem of over-population. But if population continuously expands, sooner or later the adjustment between man and resources is upset, and it is found difficult to maintain the standard of life without a change in agricultural methods and organization.

Evidences of the pressure of population are common in many tracts in India. The Indo-Gangetic plain where the population is most thickly massed exhibits clearly but unmistakeably the same tendency in the eastern districts. Starting from the western border of the United Provinces, the more we advance towards the east, the higher the rural density we meet, until we reach the eastern submontane district of Gorakhpur which has an average density of 721·5 per square mile. Gorakhpur with a total area of 4,528 square miles is the biggest district in the province. Its immense size necessitated in 1919 the appointment of two separate officers with assistants, each in charge of three sub-divisions, to carry on settlement operations.

The population of the district is essentially rural and agricultural. The figures quoted in the District Gazetteer show that not more than 5·4 per cent. of the population can, by any stretch of the term, be classified as urban, and most of the so-called towns are merely overgrown villages. Of every thousand of the total population, agriculture supports 884 persons. People of the district are, therefore, mainly agriculturists, and their fate is inextricably linked with the soil for maintenance and support.

Civilization first made its appearance in fertile river valleys where nature could easily support a dense population. Gorakhpur could not have been what it is to-day but for its net-work of rivers, the fertility of the soil, and an abundant rainfall. "A dense population where nature is bountiful and water abundant", aptly summarises the situation in the region.

Situation and natural divisions.

The Gorakhpur district lies in the extreme north-east of the provinces between the Nepal frontier on the north and the Gogra on the south. On the west it adjoins the Basti district. To the east are the Champaran and Saran districts of Bihar which share with it the valley of the Great Gandak.

The Gandak system.

The Gandak system affects the eastern portion of the district. Issuing from the Himalayas in Nepal, the river is a powerful stream. In the words of the Gazetteer, "it takes its rise in the snowy region in Nepal and leaves the hill by the gorge near Tirbeni about 10 miles north from the boundary of the district. It is a stream of the first magnitude and even in the hot weather its volume is immense, the minimum discharge being at least double that of the Ganges at Hardwar". Its bed is rather shallow though wide in its upper reaches, as far as the Gorakhpur district is concerned. After being on or near the boundary for a few miles, the principal stream leaves the district, but again touches the south-eastern portion of the Padrauna sub-division. A big expanse of khadir, where stable cultivation is possible, is found in the interval. The new alluvium in the bed of the river is locally known as Dhab and the valley is popularly called as Diwara or Diara. In the north, a few miles to the west of the Great Gandak, but at an increasing distance in the south, is the Chhoti Gandak, an old or side-channel of the river. Between the Great and Little Gandak a soil especially rich in carbonate of lime is found, known as Bhat.

Central plain.

West of the Little Gandak, as far as the highland fringing the valleys of the Rohin and the Rapti from the north to the south of the district, is a central wide, open, slightly undulating plain, having something of a terai character in the extreme north. It is broken by no important rivers, but possesses several interior drainage lines converging on the Little Gandak on one side and the Rapti on the other.

The light-soiled ridge.

Another tract to the west of the central plain is the light-soiled ridge. Lying as it does mainly in the Sadr and Maharajganj sub-divisions, it continues into the Silhat pargana of the Hata tahsil. Until recently, and largely even during the last century, it was covered with forest. Only a portion of this remains now, as State reserve forest, while with the expansion of population, the rest has come under the plough and cultivation is in its full swing.

The Rapti valley.

The Rapti valley is a prominent feature of the western tahsils of Maharajganj, Sadr and Bansgaon. The level of the land here is low and the entire area is subject to regular flooding. This region is popularly known in the district as the Rapti Kachhar. It is more or less compact area of land covering about 50 square miles. The silt left by the river after periodical inundations is very fertile. Rich spring crops are commonly raised with little trouble as the silt usually retains moisture to raise crops without requiring irrigation.

The Gogra.

A description of the natural divisions of the tract would be incomplete without mentioning the Gogra river frontage. The river frequently changes its course. Some portions of the river-bed lie high enough to escape the floods during the monsoonic period and raise even autumn crops. Marching parallel to the Gogra is a narrow strip of alluvial mahals where barley cultivation is carried on in the rich silt. The slope to the river is very gradual and there is so great a need to provide food for the expanding population that cultivation runs right up to and even into the bed of the river.

The regional aspect of population.

Favourable geographical conditions promote man's prosperity. The character of the soil, the nature of crops, rivers, mountains, forests, and domesticated animals all leave an indelible impression on the life of man. The district is rich in natural resources which man could easily utilize. The soil is fertile; crops are easily grown. Rainfall is

abundant, which seldom fails. "Many circumstances," says Blunt, "combine to produce density—not only physical but psychological, historical, social—in fact the whole environment of the particular population tends to affect it. Of these the most important are the physical circumstances included in the environment. It is a well-worn maxim of political economy that population centres round fertile tracts".*

Year after year the district has shown a phenomenal increase in its population. From a density of 443 per square mile and a total population of 2,004,883 in 1872, the figures have now swollen to a density of 721·5 per square mile and a population of 3,266,830 in 1921.

The phenomenal expansion of population.

Year.	Population.	Variations.	Density per square mile.
1872	2,004,883	..	443
1881	2,599,382	+594,449	574
1891	2,975,113	+375,731	657
1901	2,938,685	—36,428	649
1911	3,201,180	+262,495	707
1921	3,266,830	+65,650	721·5

The percentage of increase in population from 1872 to 1921 is roughly, 63·2. Figures show a set-back in 1901 due to the havoc played by the epidemics, an experience shared by most districts in the provinces. It would be of interest to note that Gorakhpur has a higher density than even some of the great industrial or agricultural tracts of the west.

The various sub-divisions exhibit a remarkable density of population.

Country.	Density per square mile.
England and Wales	649
Germany	332
France	195
Belgium	666
Netherlands	544
Gorakhpur district	721·5

The entire district shows a dense population, and in most of the southern parganas population runs from 1,000 to 1,100 persons to each square mile, or roughly, three persons to every 2 acres. Trennier's in-

*Census Report, U. P. 1911.

vestigations in Germany led him to conclude that agriculture in that country could not support more than 250 per square mile. Conditions in Gorakhpur, according to this standard, seem to be very precarious, where husbandry carried on old fashioned lines supports a population of 1,000 to 1,100 persons per square mile, in the most congested tracts.

The various sub-divisions of the district exhibit an enormous density per square mile.

Sub-division.	Density per square mile.
Sadr	1,044
Maharajganj	716
Bansgaon	1,014
Padrauna (Sidhua Jobna)	865
Hata	992
Deoria (Salempur Majhauli)	1,100

The apparent exception in the case of Sadr may be explained by the fact that its population is augmented by the city population. The density of Bansgaon would have been much higher but for the extensive alluvial tracts at the confluence of the Rapti and the Gogra. A large area of the Maharajganj tahsil is covered by the State reserved forests and this accounts for its comparatively low density. This tahsil is, however, showing a considerable improvement in population numerically, as people are moving from the already congested southern areas of the district as well as from the kachhar tracts in the Basti district to settle down there. In 1891 it had 511,450 persons; and 91,290 were added by 1911. At the last census of 1921 the population was 609,323. A considerable slice of land comprising about 102 villages which was at the settlement of 1889 in Gorakhpur was shortly afterwards transferred to Azamgarh district due to the change in the bed of the Gogra.

High density in the parganas.

Population is dense not only in a particular locality, but in the whole district, as the density per square mile of cultivated area in each of the following parganas would show :—

Tahsil.	Parganas.	Density per square mile of cultivated area.
Bansgaon	Chhillupar	949
	Dhuriapur	1,011
	Unaula	1,075
	Bhauapar	1,021
Sadar	Bhauapar	1,017
	Hasanpur	1,006
	Haveli	1,111

The problem of rural over-population in Gorakhpur.

A density of 650 or 700 is not an uncommon thing in the provinces, but to find a parallel of 890 over so large rural area it is necessary to go to the congested districts of the Tirhut or Dacca divisions. Writing in the last Settlement Report (1919—1922), Mr. K. N. Knox says "Of the three tahsils (Padrauna, Hata and Deoria), Hata shows by far the greatest development and has increased by 110,500 as contrasted with only 33,000 in the equal tahsil of Deoria. The immense tahsil of Padrauna shows an increase of 99,000. It is a safe conclusion that Deoria and Hata contain as large a population as in present conditions they can support."

The continuous expansion of population has its reactions on the land. Blunt rightly presumes that there has been a considerable pressure on land in these tracts.* The district is entirely agricultural and an extension of population has meant both an extension in the cultivated area as well as intensive farming.

Density and cultivated area.

In the words of Sir William Beveridge, "The limits of agricultural expansion act indefinitely far to counteract the growth of population."† Experience shows that the greatest expansions of population can be buttressed by the enormous potentialities of production. An increase in population is, in the first instance, dependent upon an increase in the cultivated area. It is quite obvious that the more cultivable land there is and the more of it is cultivated in a region, the better equipped is that region to maintain a dense population. What especially distinguishes Gorakhpur from the rest of the provinces is that practically all the land is culturable, and what is more, all cultivated. At the time of the settlement of 1889, the whole area recorded was 2,775,712 acres. At the time of the last settlement in 1919 the figures for total area were 2,776,566, showing an increase of 854 acres. During the same period the cultivated area rose from 1,958,489 acres to 2,155,437 acres recording an increase of 196,948 acres. In the western tahsils of Sadr, Maharajganj and Bansgaon, the increase in the cultivated area is about 13 per cent. between 1889 and 1919 the dates of the last settlements. This increase is partially due to the silting up and bringing under the plough of areas which at the first settlement were submerged in water, such, for example, as the Amyar Tal close to the confluence of the Ami and the Rapti, but it is mostly due to the expansion of cultivation in the north of the district, where tracts, formerly under forest, have, in a number of villages, been brought under cultivation. Certain parganas

*Blunt : *Census Report* (1911).
†Sir W. Beveridge. *The Problem of Population.*

of the Maharajganj tahsil, where expansion of population is going on rapidly, show a large increase in the area cultivated. The increase is especially marked in pargana Binaikpur.

Pargana.	Cultivated area, the 1st settlement.	Cultivated area, the last settlement.	Percentage of increase
	Acres.	Acres.	
Haveli (East)	155,367	190,511	22·6
„ (West)	145,153	169,105	16·5
Tilpur	87,327	101,157	15·8
Binaikpur	47,063	61,288	30·2

The eastern tahsils, where there is congestion of population exhibit an increase of about 70,000 or 7 per cent. on the area of the first settlement. The bulk of this 40,000 has occurred in Padrauna sub-division (pargana Sidhua Johna). In tahsil Hata the parganas Haveli and Silhat show an increase of 22,500 acres. In pargana Salempur Majhauli and in Shahjahanpur (Hata) which exhibit a remarkable pressure of population, the increase is so meagre as to be negligible over so large an area.

The expansion of cultivation seems to have reached its maximum under present conditions, except in some of the remote portions of the Bhat tract in Padrauna sub-division. In a majority of the estates there is seemingly no longer room for the landholders to meet the increased revenue contribution by breaking up new land.

A recapitulation of the figures for the last two settlements, together with the figures recorded in Season and Crop Reports between the years 1922—1927, clearly shows that the expansion of cultivation is still going on and man's quest for fresh fields is as new as ever.

Year.	Total cultivated area. Acres.
1889	1,958,489
1922-23	2,099,421
1923-24	2,135,807
1924-25	2,129,881
1925-26	2,148 597
1926-27	2,149,796

As in other regions of India, the sale price of land in Gorakhpur district has trebled and in places quadrupled. Mr. Cruickshank's report of the first settlement shows that for the decade previous to his settlement operations the price per acre of land was Rs. 19 in Padrauna

(Sidhua Jobna) and Rs. 37 in Salempur Majhauli (Deoria) and Hata. The prices were Rs. 50 per acre in Sidhua Jobna (Padrauna), about Rs. 70 in Hata and Rs. 90 in Salempur Majhauli in 1912 or 1913.

Mr. K. N. Knox found that at the approach of the last settlement (1919) prices had risen considerably. In Sidhua Jobna they had gone up to Rs. 70 an acre, in Hata they fluctuated between Rs. 80 and Rs. 120 an acre and in Salempur Majhauli the average was Rs. 125 per acre. After making inquiries from those who were increasing their holdings, Mr. Knox was told that land could be bought in the more remote parts of Padrauna for Rs. 50 an acre in Silhat, a price of Rs. 100 an acre was generally quoted for land free from the encumbrance of occupancy rights, and in Deoria (Salempur Majhauli) Rs. 100—180 an acre was quoted for average land held by occupancy tenants and Rs. 150—225 for average land free of occupancy rights.

Serious as the problem of growing numbers is, its effects on social economy in a particular region are no less vital and far-reaching. High density in an old agricultural country usually means pressure on the soil and low living and economic standards.

According to Parmelee "for social evolution to advance far enough to produce a civilization, a certain minimum density of population is absolutely necessary".* On the other hand, a heavy population which cannot be maintained in its present condition of the arts of agriculture suffers in many ways which economists summarize in the description, "a lowering of the standard of living".

*Parmelee : *Poverty and Social Progress.*

CHAPTER II.

THE PROBLEM OF TOY-HOLDINGS.

The tiny holding of the cultivator.

The more fertile the land, the greater the increase of population, and the smaller the sub-division of holdings. The dense population in the district of Gorakhpur is accompanied by a preponderance of pattidaris. Population grows more and more dense as we move from north to south. There is comparatively more elbow room in the north. In the south, however, cultivated holdings are very small. These holdings tend to be split up into several fields scattered round the village proving a bar to good agriculture or cultivation. In most of the southern parganas of the district there are three persons to every 2 acres. The holding averages less than an acre in the sub-divisions of Padrauna, Hata and Deoria.

The size of tenant's holdings bears a close relation to the density of population in the various sub-divisions.

Sub-division.	Average size of tenant's holdings in acres.	Density of population.
Sadr	2·1	1,044
Maharajganj	2·5	716
Bansgaon	1·4	1,014
Padrauna (Sidhua Jobna)	1·3	865
Hata	·9	992
Deoria (Salempur Majhauli)	·65	1,100

For persons partially or solely occupied in agriculture, there are 5·5 acres in Germany and 20 acres in Great Britain. Dr. E. D. Lucas who made an economic survey of village Bairampur in the Hoshiarpur district in the Punjab and got family budgets prepared, remarks that 14 acres cannot support a Jat and his family of five without getting into debt*. Darling's close and illuminating study† of the Punjab peasant led him to conclude that 8 or 10 acres were entirely insufficient to maintain the cultivator in peace and comfort without any

*E. D. Lucas : *Economic Survey of Village Bairampur.*
†M. L. Darling, I.C.S. : *The Punjab Peasant.*

supplementary income. He further quotes a Settlement Officer who considers an average of 4 acres "a narrow margin" where safety could not be expected. What to say then of regions where the holding is even less than an acre, as in the pargana Salempur Majhauli of Gorakhpur district. "The fragments of land become so small that the cultivator has to dismiss the cattle and use the spade. If this process continued, women in India, as in China, might be compelled to draw the plough. In most districts of the United Provinces and Bihar the average size of holding required to support a cultivator with his family is about 3 acres".*

Rai Bahadur Pandit Shyam Behari Misra, late Registrar, Co-operative Societies, made some interesting investigations into the economic cultivation units in the United Provinces. A glance at his figures shows that the position of the cultivator in Gorakhpur is very precarious when compared with some other districts in the Agra Province. The average area in acres per cultivator (intensive) is 1·3 acres, while for the ordinary cultivator it is 4·3 acres. The average area in acres per plough is 4·88.

District.	Average area in acres per—		
	Cultivator.		Plough.
	Intensive.	Ordinary.	
Meerut	2·8	10·2	10·4
Bulandshahr	7·8	18·83	17·77
Aligarh	1·3	16·3	10·39
Muttra	1·8	11·12	11·47
Mainpuri	2·0	7·69	6·5
Budaun	2·2	6·5	6·5
Farrukhabad	2·0	5·38	5·07
Cawnpore	2·4	5·5	6·0
Fatehpur	2·0	7·0	7·0
Jhansi	1·5	10·06	8·59
Jalaun	1·5	8·72	10·46
Gorakhpur	1·3	4·3	4·88

*R. K. Mukerjee: *Rural Economy of India*, page 61.

In tahsil Maharajganj, in pargana Haveli and in the Sadr, the single zamindari is the prevailing form of tenure, while along the course of the Rapti and in the pargana Hasanpur Maghar and in the Bansgaon sub-division pattidari prevails, the fragmentation being extremely minute particularly in Salempur Majhauli (Deoria) and Bansgaon. The result, broadly speaking, is that the road running from Kasia to Gorakhpur viâ Hata may be taken as a rough dividing line between comparatively big holdings in the north and comparatively small holdings in the south.

A large number of Saithwars, who are the most enterprising farmers of the district, have left the congested areas in the south. I asked a few cultivating proprietors whether they had some Saithwars in their villages, and the answer they gave me was that there was not land enough to attract Saithwars, for they never cared to scrape a living off two or three scattered bighas but required space and holding on which they could employ at least two or three ploughs.

In some cases the village is so dense and congested and the share of an individual in it is so microscopic that it is difficult to believe in the existence of any actual connection on his part with the village at all, as is exhibited by a study of village Nonapar in Deoria tahsil.

The problem of fragmentation and scatteredness studied in village Nonapar.

Village Nonapar.—This village is situated in tappa Bhatni, pargana Salempur Majhauli (Deoria) sub-division of the district, and is mostly inhabited by the Brahmans. The population of the village, according to the census of 1921, is 1,603. The number of males is 815 while that of females is 788. It is 3 miles to the east of Bhatni Junction Railway Station. The inhabited area of the village lies on both the right and left side of the railway line (Bengal and North-Western Railway) running from Kathiar to Gorakhpur. The village contains 4 tolas, Puran Chhapar and Chatarpurwa to the north and Nonapar and Phulwaria in the south. Of these tolas, Nonapar is the oldest. With the growth of population Chatarpurwa was inhabited. Then Puran Chhapar came into existence and lastly Phulwaria. In Phulwaria, the last named tola, cultivators alone live, while in the others both the tenants and zamindars reside. This village is owned by about 375 proprietors. The prevailing form of land tenure is pattidari. The preponderance of pattidaris has made shares in land very minute. *Fractionalization and scatteredness* of holdings is the rule in the village.

The total number of holdings in the village is 1,551. These holdings are minutely divided into 2,442 plots as the accompanying map will show :—

(1) The average holding comes to 0·29 acre.

(2) The average cultivated area per individual is 0·27 acre.

(3) The average holding per cultivator is 0·52 acre.

Tiny plots of ·01 acre are still numerous, although many were united into neighbouring fields when the last settlement took place in 1919—1922. Holdings have grown more and more fragmented with the growth of population. Agriculture shows signs of decay all round, because these holdings tend to be split up into several tiny fields scattered round the village. This would be evident by taking certain concrete cases :—

I. Holding No. 601.—The total area of the holding at the beginning was ·14 acres. This was parcelled out thus :—

Holding No.	Shares.	Acreage.
601	$\frac{601}{1}$	0·03
	$\frac{601}{2}$	0·03
	$\frac{601}{3}$	0·04
	$\frac{601}{4}$	0·04

Plots Nos. $\frac{601}{3}$ and $\frac{601}{4}$ were again sub-divided :—

Plot No.	$\frac{601}{3}$	$\frac{\frac{601}{3}}{1}$	0·02
		$\frac{\frac{601}{3}}{2}$	0·02
,,	$\frac{601}{4}$	$\frac{\frac{601}{4}}{1}$	0·02
		$\frac{\frac{601}{4}}{2}$	0·02

II. Holding no. 1403.—The total area was ·18. It was divided in this manner :—

$\frac{1403}{1}$	0·06
$\frac{1403}{2}$	0·06
$\frac{1403}{3}$	0·06

These plots were again fractioned :—

Plot No. 1403/1	1403/1/1	0·03
	1403/1/2	0·03
,, 1·03/2	1403/2/1	0·02
	1403/2/2	0·02
,, 1403/3	1403/2/3	0·02
	1403/3/1	0·03
	1403/3/2	0·03

III. Holding no. 1164.—The total area of 0·04 was divided into two shares :—

1164/1	0·02
1164/2	0·02

IV. Holding no. 224.—It was divided into 3 plots at first :—

(A)	224/1	0·06
(B)	224/2	0·06
(C)	224/3	0·08

Plot A was divided up again into 3 pieces :—

224/1	0·02
224/2/2	0·03

Plot C met its fate like this :—

224/3/1	0·02
224/3/2	0·02
224/3/3	0·02
224/3/4	0·02

These four stray cases taken from the village would show clearly what awful consequences fragmentation of holdings present. It is here that the real cause of the peasant's poverty and indebtedness lies.

The evil of fractionalization is invariably accompanied by another evil of scatteredness. The fields of the cultivator do not lie all at one place in a compact block but are distributed here and there. To take an example, the owner of holding no. 199 has seven plots. These plots are distributed in all directions round the village inhabited area.

Plots.	Distance from home in yards.	Direction
667	462	South.
752	396	West.
761	396	,,
762	396	,,
2062	442	North.
2128	50	,,
2338	462	East.

The cultivator as a rule has to visit these plots each day, wasting both time and energy. He cannot prevent cattle going into his distant fields and damaging his grown-up crops, for he or some of his representatives cannot always afford to be there. How difficult and tiring he finds to carry manures or agricultural implements from place to place? Can he effect any improvements on these scattered fields? The answer is an emphatic "No." To talk of using improved agricultural machinery on these plots seems to be ridiculous.

The sub-division of holdings and their partition into numerous fragments of land is a subject which has attracted much attention in recent years, and presents to-day one of the thorniest problems of agrarian policy. At present the customary laws of inheritance and the statutory laws of partition combine to produce sub-division of the most extreme type; and if there is to be a real advance in agriculture it is essential that bold steps should be taken to make the way easier for the industrious and far-seeing farmers to obtain what has been described as "an economic holding." Small holdings are a particular feature of rice-growing regions where it becomes essential to parcel the land into various tiny fields for the purposes of irrigation. In the words of Dr. R. K. Mukerjee, "The pepper-pot distribution of holdings in scattered fragments, thus, is responsible not only for agricultural inefficiency but also for increase in litigation due to trespassing, encroachments, etc., because the fields are at a distance from the home-stead."*

*R. K. Mukerjee: *The Rural Economy of India.*

Agricultural improvements are impossible on such toy-holdings or plots, for these cannot provide sufficient work for the peasants and leave them unemployed during a considerable part of the year.

This accounts for the economic backwardness of the cultivator.

Inquiries which I made in the district in many areas show that among the Saithwars adherence to joint family traditions has prevented such sub-division. The family affairs are managed by a Malikar, who is selected as the most capable member of the family. Naturally under Hindu Law if any member insists on partition, he is entitled to it, but the revival of the panchayat can work wonders to prevent a division, and can also be instrumental in preventing undue sub-division of fields and in effecting consolidation by mutual consent.

The pattidari tract in Gorakhpur provides an exceptionally promising field for experimental legislation which would confer on the vast majority of farmers the option of maintaining or even re-constituting economic holdings.

CHAPTER III

THE INCREASE OF AGRICULTURAL LABOURERS.

Growth of agricultural labourers remarkable in the district.

An important and interesting development in the rural life of the district during the last twenty-five years has been the growth of farm servants and field labourers. The speed with which their number has increased is still unabated. The *harwahas* or agricultural labourers have become a prominent factor in the countryside.

Agricultural labourers.

Sub-division.	1905.	1910.	1915.	1920.	1925.	1926.
Deoria	25,912	26,911	27,703	28,945	29,125	30,540
Hata	39,511	40,304	41,102	42,025	43,525	44,982
Padrauna ..	41,428	42,075	42,159	43,592	45,028	45,991
Maharajganj ..	23,422	23,987	24,001	25,883	26,012	26,875
Bansgaon ..	19,422	20,850	21,220	22,112	23,862	23,998
Sadr	12,969	13,687	14,387	15,031	15,839	16,320

The causes of this abnormally high increase in the number of *harwahas* are manifold. The lack of sufficient work for the people is a common complaint in India. The work done by the average cultivator in the Punjab does not represent more than 150 days' work in the year.* According to the investigation made by Dr. R. K. Dass in 1925 the average peasant in the United Provinces and Bengal does not have to work for more than seven months in a year.† Since the average holding is very small in Gorakhpur, the cultivator remains idle for about 200 days in a year.

*Census of India, 1921, Report 1 : p. 245.

† Dr. R. K. Dass : "Wastage of India's Man Power." (*Modern Review*, April 1927.)

The landless labourer.

The growth of population in the district has reacted very unfavourably on the economic life of the people. Holdings have become more and more under-sized, with the result that the small holder is put on the two horns of a dilemma. Either a supplementary income must be found or he must borrow. The families who have exceptionally small holdings eke out their living by working for others.

The *harwahas* are agriculturists by origin who having lost their cultivating tenures, have taken recourse to domestic service, and are freely employed by the high cultivating classes—the Brahmans, Kshattriyas, etc., who do not till the land themselves. Poverty may stare them in the face, yet the three highest classes, bound down by religious susceptibilities or the dominating influence of custom, do not condescend to cultivate the ground themselves and usually leave this task to their farm servants or labourers. "We have the landless labourer who works for hire, a class which is steadily recruited from the smaller landholders as the pressure of population in the most densely peopled tracts squeezes them out of the position of landholders."*

The three classes form the majority of the cultivating proprietors as the following figures would indicate :—

Proprietary area (in thousands of acres) in 1922.

Caste.	Maharaiganj Sadr, Bansgaon.	Hata, Deoria and Padrauna.	Whole district.
Brahmans	4·00	2·98	6·98
Kshattriyas	2·55	3·68	6·23
Kayasthas	1·04	·55	1·59
Bhuinhar	0·8	2·38	2·89

Large-scale farming.

The growth of population has indirectly contributed to the rise of prices of agricultural products. Many cultivating proprietors are also endeavouring to produce on a larger scale and they employ a considerable number of indigenous agricultural labourers, while, on the other hand, the continuous fragmentation of holdings is driving out the toy-holder from the field of competition.

*G. Keatinge: *Agricultural Progress in Western India.*

Absentee landlordism.

Absentee landlordism has also contributed a great deal to the increase of agricultural labourers in the district. Cultivation is carried on by farm servants and field labourers who work under the employment of the absentee landlords. In the western portion of the district, comprising the sub-divisions of Maharajganj, Sadr and Bansgaon, absentee landlordism can be best seen.

Castes.	Area in acres.	Number of sharers.	
		Resident.	Absentee.
1. Brahmins	400,133	25,484	54,747
2. Kshattriyas	255,290	8,922	38,684
3. Kayasthas	103,989	1,731	5,320
4. Vaishyas	164,617	771	4,247
5. Saithwars	65,500	6,303	16,927
6. Bhuinhars	58,138	3,557	6,949
7. Europeans	50,784	7	129

In village Nonapar, tahsil Deoria, the population of which is 1,603, the number of farm servants has more than doubled itself within the last twelve years. In 1915 the number of the agricultural labourers in the village was 70. In 1920 it was 100. In 1926-27 it was 140. The inhabitants of this village are mostly Brahmans. The Brahman zamindars having even grotesque shares of land do not till the ground themselves, and are under the sway of their *harwahas*. This growth of agricultural labourers in village Nonapar may be taken to illustrate the tendency in the entire district.

Social status of the Agricultural labourer.

Farm servants are recruited from the Chamar, Lonia, Kewat and Koeri castes. The principal element, however, is the Chamar who is engaged in the "exploitation of the earth's surface." His social status can be well described by quoting Briggs: "A catalogue of the different kinds of work which the Chamar performs, shows that he belongs to the great class of unskilled labour. He is a grass-cutter, coolie, wood and bundle carrier, drudger, doer of odd jobs, maker and repairer of thatch and mud walls, field labourer, groom, house servant,

peon, brick-maker and even village watchman".* His position varies from practical serfdom to comparative independence in different places. Farm servants are each given a plot for their maintenance, which they plough with their master's bullocks. This has meant a further shrinkage of land available to the proprietors. As a rule the agricultural labourers were paid in kind. With the steady rise in the prices of food-stuffs, cultivating proprietors are replacing payment in kind by payment in cash. Petty landholders are in a precarious position. The *harwahas* even defy their commands without the slightest regard. According to the popular saying in some portions of the district, "Jimmidari, Jewmari Bhail Ba", meaning that landlordism is full of worries and anxieties.

Rumuneration of Agricultural labour: both in cash and kind.

Farm servants are paid both in cash and kind, and in most cases given land for cultivation. In Hata they are given Rs. 3 per month, together with a daily allowance of 2 pice for *chabaina*. Besides this they get an extra allowance of grain at the *khaliani* time. In Deoria they are given an option. Either they should take the cash payment of Rs. 8 per month or accept 1 bigha and 15 biswas of land (kachcha) and Rs. 2 at the end of the month. In Padrauna farm servants are paid Rs. 3 per month with the extra allowance of daily grain (about 3 pice) and harvesting share.

Wages also differ from village to village. In village Nonapar farm servants are paid in kind. They are given about one acre of land for their maintenance, which they plough with their master's bullocks. They get about ten seers of grain every month for (*chabaina*) and about 15 to 20 seers each crop (twice a year) as *kha'iani* (harvesting due). They are given clothes also and are helped with money at the time of emergencies.

*Briggs: *The Chamars.*

CHAPTER IV.

EMIGRATION.

An obviously important factor in influencing the balance of population is emigration. People leave their homes, friends and familiar circles and go out to earn their livelihood in regions unknown and unfamiliar because their village or neighbouring region cannot provide them with adequate income. The growing pressure of population on agriculture and the increasing fractionalization of holdings have made income from cultivation both uncertain and inadequate. The result is that the small cultivator finds it difficult to make two ends meet without supplementing his meagre agricultural income during off-seasons and bad harvests. Emigration, therefore, is resorted to.

The progress of migration in the district has been as follows :—

Year.	Emigrants.	Immigrants.
1901	129,200	140,979
1911	136,324	151,552
1921	131,169	89,236

"Immigrants have increased," wrote Mr. E. A. H. Blunt in 1911, "and emigrants are practically stationary, and the two figures approximately cancel each other." In 1921 the number of immigrants decreased from 151,552 to 89,236. This comes to a decrease of 62,316. Emigrants also suffered a small decrease. In 1921 their number was 131,169. This means a decrease of 5,155. I do not think this decrease amongst the emigrants is at all alarming as compared with the great decrease of immigrants. Emigration is as brisk in the district as ever and is specially marked in the congested tahsils.

"Reckoning an average family as consisting of five persons and that one-fifth of the tenant's holdings are held by landowners or by persons whose main occupation is not agriculture, the average holding to support a tenant with his family is about 3 acres."* The area is distinctly low on the southern portion of the tract, where, however, there is considerable emigration of occupancy tenants to the labour markets further east. In such cases the holding is frequently managed by another

*Final Settlement Report, 1919.

member of the family, and money remitted or brought home on return by the absent member goes towards the common family income.

Emigrants who go out send money to their villages for family expenses, and it is interesting to note that 21 lakhs of rupees were sent to Gorakhpur by the inland emigrants and 6⅓ thousands by foreign emigrants in 1910.

District.	Year.	Amount in lakhs.	1910.	
			Inland. (Lakhs).	Foreign. (thousands)
Ballia	1895	9½	19	5
	1905	17	..	..
Jaunpore	1903	14	232	31½
Ghazipur	1905	13½	16	6½
Azamgarh	1895	9½	29½	130
	1903	14	..	..
Sultanpur	1905—1906	20	23½	6½
Fyzabad			24	11
Benares			43	41
Basti			12½	9
Gonda			11½	6
Gorakhpur			21	6½

Emigration is largely of a temporary character. It usually commences with the closing of the monsoon and ends with the advent of the hot weather. Agriculture is the only industry and the mainstay of the entire population. Other occupations, however, employ only a small and negligible fraction of the total population.

Profession.	Supporting per 1,000 of the entire population.
Industry	40
Commerce	29
Miscellaneous profession	3
Agriculture	884

Families, agricultural by origin, are resorting to commercial, industrial and other miscellaneous occupations as they cease to be adequately

supported by land. The peasant has to look after a very large family, and his condition becomes pitiable during slack seasons. Every four workers engaged in agriculture have to support six dependents.

Occupation.	Actual workers.	Dependents.
Commerce	54	46
Miscellaneous professions ..	50	50
Industry	60	40
Agriculture	40	60

There are no important subsidiary industries in the district to employ the overflow in agricultural families. The manufactures of the district are limited to the production of the simple necessities of rural life, and there is little or nothing that calls for attention so far as these industries are concerned. Cottage industries may employ the overflow in agricultural families, and thus prevent poverty and misery. There are few such industries in Gorakhpur. Sugar-refining is the only industry worthy of mention. These sugar mills work busily in winter and employ only a small fraction of the idle resources of the region. There is, on the whole, an inadequacy of industrial occupations in the district.

The various local industrial outlets of population are as follows :—

	Workers.
1. The Gorakhpur Loco and Carriage workshop employs	4,000
2. Gauri Bazar Sugar Mill	350
3. Ghugli „ „	300
4. Bhatni „ „	200
5. Sardarnagar „ „	300
6. Padrauna „ „	200
7. Ramkohi Road „ „	350

The plantations and commercial towns of the eastern provinces have become the favourite resorts of emigrants from this district. Thousands of labourers migrate for several months every year earning high wages from October to the beginning of the rains in April. During this period natives of Gorakhpur are to be found in Eastern Bengal, Assam, Calcutta and Rangoon. In seasons of high prices and agricultural distress emigration increases in volume.

Emigration to the tea plantations in Assam from this district has almost ceased. Formerly there were four recruiting dépôts each under a Sirdar. There is now only one dépôt in existence. In 1926 one Mr. T. Morton was commissioned by the tea magnates of Assam to inquire into the possibilities of the recruitment of labourers to the tea estates. He summed up the results of his inquiries in a short sentence which runs thus: "There seems no possibility of obtaining labour from the eastern district at present. We have to wait for some years until the prejudice for the tea plantations has cooled down." Persons who have returned from the tea estates tell tales about the atrocities to which they were subjected to by their employers during their stay in Assam, and the villagers regard the tea estates as another "kalapani". Also many labourers died there as a result of malarial fever.

In village Saunreji, tahsil Deoria, where sub-division of holdings is the rule and population is thickly settled, no less than two hundred persons migrate annually to Calcutta, Assam, Karachi, Rangoon and Dibrugarh. Of these about a 100 are permanently employed there. The other half migrate to other provinces or districts in winter season and return home in April.

In tahsils Deoria, Hata and Padrauna emigration is very brisk and is increasing every year. These tahsils are the most densely populated tracts in Gorakhpur district.

Sub-division.	Emigrants.				
	1905.	1910.	1915.	1920.	1925-26.
Deoria (Salempur Majhauli) ..	3,912	3,997	4,575	4,698	4,950
Hata	1,999	2,355	2,973	3,391	3,771
Padrauna (Sidhua Jobna) ..	2,870	2,920	3,334	3,879	5,561

Emigration in the United Provinces assumes various forms. The Pasis of Oudh are employed in the collieries. Emigration in Rae Bareli is of a military character. Gonda supplies domestic servants, mostly Kahars by caste.

The emigrants from Gorakhpur are employed in miscellaneous occupations abroad.

Born in—	Enumerated in—	1901.	1911.	Variations.
Gorakhpur ..	Champaran.. ..	21,407	23,911	P. 2,404
Ditto ..	Saran	24,936	19,045	M. 5,891

In 1911 the total number of persons working in Bengal who hailed from Gorakhpur was 52,509. The number of emigrants that sailed from Calcutta to various British colonies between 1901 and 1910, and who belonged to Gorakhpur was 5,703. Between 1911—1917 the number was 1,857.

Emigration is relatively small from the Gorakhpur district. The pressure on the land has long been considerable here, and the present volume of emigration hardly relieves it.

CHAPTER V.

THE MOVEMENT OF PRICES AND WAGES.

There has been a great rise in the prices of the commodities of daily consumption.

Years.	Rice.	Wheat.	Barley.	Maize.	Arhar dal.
1905	2·99	2·84	2·12	2·29	3·37
1910	3·65	3·20	2·01	2·37	2·88
1915	4·97	4·83	3·40	3·45	5·38
1920	12·10	9·50	5·45	5·50	12·15
1926	13·33	10·66	6·15	6·15	13·3

The expansion of population has not in turn been accompanied by a proportionate increase in the area of cultivation of food-crops. The average cultivator, on the whole, has not been benefited by the rise of prices, for whatever is produced on his tiny holding is consumed by himself or by his family and no surplus is left for him to make profits. It is only those who produce on a large scale that are benefited by a rise in the prices. The trading class, as a whole, reaps most of the benefit of high prices. High prices are more a curse than a blessing to the poor farmer. In the words of Mr. K. L. Dutta, "Living as he (the small holder) does near the margin of sustenance, his production is just sufficient to meet his wants when the season is favourable, while in bad years he has no alternative but to fall into the clutches of the money-lender."*

If the average in the quinquennium from 1884 to 1888 be compared with those in the quinquennium from 1909 to 1913 before the more recent movement of prices, it will be seen that the prices of common rice have risen from Rs. 2-4 to Rs. 3-8 a maund, wheat from Rs. 2-3 to Rs. 3-3, barley from Re. 1-6 to Rs. 2-2 and gram from Re. 1-7 to Rs. 2-5 a maund. This rise is, therefore, one of from 40 to 60 per cent. Prices have risen considerably in recent years.

Rents and the movement of prices.

Wrote Mr. D. M. Stewart in the Settlement Report of 1919—1922, "Although rents cannot be expected to follow *pari passu* the rise in the retail prices of agricultural produce and, particularly in a district of this

*K. L. Dutta. *An Enquiry Into the Rise of Prices.*

type, there are other factors affecting them, yet a rise so marked as this must be expected to produce a marked effect on the rents of the district and there can be no doubt that these have risen considerably since the last settlement." Mr. Stewart established a relation between rents and prices."

Wages absurdly low throughout the district.

Wages throughout the district are absurdly low. The pressure of population has enormously increased the number of wage-earners.

Holdings in the district are very small. The smallness of holdings has had a very unfavourable influence on the plane of living. In the words of Professor T. N. Carver, "Small holdings connote smallness of income."*

Some early records of wages.

Early records of wages are not available, but it would appear that from 1858 to 1868 the remuneration of field labourers remained at the same level, varying from 6 to 8 pice daily. Cash wages were, however, relatively rare. In 1878 there was a bit higher level of wages both in cash and kind. In 1909 the general average fluctuated from 6 to 8 pice. In rare cases more was given. This was supplemented by a grain allowance of 2 to 3 seers. The cash remuneration was 5 to 10 Gorakhpuri paisa (pice) or 1 to 2 annas.†

The lowest wage of an anna is probably paid only to the regular retainers of zamindars who give them constant employment with various extras as a daily dole of grain, blanket in the cold weather and a few maunds of grain at *khalihani* or harvest.

The census of 1916.

The wage census of 1916 showed the average daily rate of an unskilled labourer as 7·4 pice inclusive of payment in kind, which is lower than in any other district of the provinces; ploughmen got Rs. 3·5 a month on the average.

The rate of wages depends upon the locality and the nature of work performed. Men engaged in digging a well or other similar work are paid more than those employed in other miscellaneous tasks such as weeding, water-drawing, etc.

Wage level in the district.

The present wage level in the different tahsils is given below :—

Tahsil.	Wage level. As. p.
Hata	2 6
Deoria	3 6
Padrauna	4 0
Sadr	5 0
Mahrajganj	3 6
Bansgaon	3 6

*T. N. Carver : *Principles of Rural Economy.*
†District Gazetteer.

Carpenters, blacksmiths, and, to some extent, ploughmen, had increased their wages in the last ten or fifteen years, the rest have showed only a trifling increase. In Hata, Deoria and Padrauna the wages of carpenters, blacksmiths and skilled artisans have thus risen :—

Year.	Wages in annas.		
	Skilled artisan.	Carpenter.	Blacksmith.
1905	4	4	4
1910	5	5	4½
1915	6	6	5
1920	8	8	6
1925	10	10	8
1926	12	10	8

In Sadr skilled artisans get 14 annas, carpenters and blacksmiths get 12 annas. A *mazdur* or a labourer for miscellaneous purposes gets 5 or 6 annas per day.

Sadr.	Skilled artisan.	Carpenter.	Blacksmith.
1905	6	5	5
1910	7	6	6
1915	8	7	7
1920	10	8	8
1925	12	10	10
1926	14 annas or a rupee.	12	12

Unskilled labour is very cheap throughout the length and breadth of the district. In Hata and Deoria wages of unskilled labourers are very low.

Tahsil.	*Mazdur* for miscellaneous work.	Farm labourer.	
		Adult.	Child.
	As. p.	As. p.	As. p.
Hata	3 6	2 0	1 6
Deoria	4 0	4 0	2 0
Padrauna	4 0	4 0	2 0

The women as a labourer.

One special feature of rural economy is the employment of a large number of women as partners in different agricultural operations. Better physique enables them to work very hard, and they are as efficient as men. When the crops are standing on the fields weeds quickly grow and these require to be exterminated. A very large number of women are employed in this work which is known as *sohni* or weeding. Besides weeding, women are engaged in *mazduri* or miscellaneous work, do gardening work, fishing and harvesting and assist their husbands in the fields. No less than 2,000 women are engaged in getting wood for fuel from the Kushmi and Ramgarh forest areas near the town of Gorakhpur. Besides agricultural work, women near Gorakhpur city also employ themselves largely for cutting and selling fuel. They also bring other forest produce, for example Pattals, etc. As the saying goes, "Hal pharua bacha hai", meaning that it is only ploughing and spadework that has escaped from the sphere of a woman's work. In village Belanpur, tahsil Sadr, I found, during my investigation, one poor Lonia woman ploughing her small field. This is, however, an exception and women in India have not yet been yoked to the plough, as in China, due to economic pressure.

The agricultural wages of women during the *sohni* (weeding) season and for other miscellaneous work are :—

Tahsil.	*Sohni.*	*Mazduri.*
	As. p.	As. p.
Hata	2 0	2 6
Deoria	3 0	3 0
Padrauna	3 0	3 0
Sadr..	4 0	4 0
Mahrajganj	3 0	3 0
Bansgaon	3 0	3 0

The general wage level in the district is very low and is a striking index of low standard of living. The pressure of population, small holdings, small income, low wages, all have reacted very unfavourably on the economic life of the people.

CHAPTER VI.

THE PROBLEM OF CATTLE AND LIVESTOCK.

Economic pressure and its reaction on plough-cattle.

It is a striking evidence of economic pressure that the number of ploughs and plough-cattle has almost stood still and in some parganas has decreased.

In pargana Haveli—

(1) men who own only a single bullock hold 8 per cent. of the cultivated area;

(2) men with a pair of bullocks apiece, 37 per cent.;

(3) men who own two pairs of bullocks and upwards hold 55 per cent.

In pargana Salempur Majhauli, where the density is the highest, poor cultivators and labourers with a slice of land hold 16 per cent. of the cultivated area, ordinary cultivators 53 per cent. and substantial cultivators hold only 31 per cent. A man who owns a pair of plough-bullocks cultivates an area of 4 or 5 acres.

The fragmentation of holdings has indirectly made it difficult to maintain bullocks on the land as in village Nonapar, tappa Bhani, tahsil Deoria. There are in the village about 40 persons who have no bullocks of their own and depend upon hired or borrowed cattle.

	Total number.
Persons having no bullocks	40
Persons having one bullock	75
Persons having two bullocks	50
Persons having more than two bullocks ..	15

The number of persons, who have so tiny holdings as are incapable of maintaining cattle, is very high and corresponds with high density and small holdings.

Tiny holdings and the maintenance of cattle.

Sub-division.	Average density.	Average holding.	Men whose plots are so small that they cannot maintain cattle and depend on hired or borrowed cattle.
Deoria	1,100	·65	11,744
Hata	1,044	·9	10,454
Padrauna	1,014	1·3	10,034
Sadr	999	1·4	9,872
Mahrajganj	865	2·1	9,580
Bansgaon	716	2·5	6,828

General conditions of the cattle.

The cattle of the district are small and decidedly inferior to those found further west. Although there is more grazing than is met with in most districts of the province, the grass and fodder generally appear to be inferior in quality and deficient in quantity required. The growth in the cultivated area of pea is, however, a remarkable improvement in respect of fodder. The cattle ordinarily used for ploughing are not strong. The milk yield is distinctly poor being 1 or 1½ seer daily. Indispensable as they are everywhere, the cattle command an almost religious significance in India. The cow is known as Gau Matá or the mother. A peasant's life sorely depends upon his cattle. Without them his fields remain unploughed, his stores get dry and stand empty, and food and drink lose half their taste and flavour. Nothing worse can happen in a vegetarian country like India than to forego milk, curd, butter and ghi. To the peasant the loss of cattle through disease, drought or epidemic is the loss of certain factors which keep his body and soul together.

The number of cows and bullocks has gone down in tahsils Deoria, Hata and Padrauna. Due to the pressure of population, more and more land has been brought into cultivation enormously reducing the area of grazing. There is no meadow or allotted pasture ground, and the cattle pick up what they can on the grassy walks between the cultivators' fields and on the roadside. This has been a serious impediment in the improvement of cattle.

Sub-division.		Total number in—					Percentage of decrease between 1910—1926.
		1910.	1915.	1920.	1925.	1926.	
Deoria	Cows ..	49,716	52,832	54,204	46,251	46,575	6·31
	Bullocks	86,645	94,759	88,553	88,331	88,785	2·47
Hata ..	Cows ..	95,506	47,048	45,852	41,526	40,367	57·7
	Bullocks	107,555	108,072	109,606	100,983	100,999	6·09
Padrauna	Cows ..	95,506	94,509	93,397	90,606	66,762	3·09
	Bullocks	81,342	80,554	78,842	76,390	76,235	6·2

Not only is the number of cattle decreasing but livestock also show a corresponding diminution.

Tahsil.		Totals of livestock.					Percentage of decrease from 1910—1926.
		1910.	1915.	1920.	1925.	1926.	
Deoria	Sheep ..	8,606	10,774	9,883	7,763	8,575	·36
	Goats ..	81,264	52,943	32,742	68,726	70,345	13·43
Hata ..	Sheep ..	45,387	50,406	25,786	40,856	40,323	11·15
	Goats ..	47,752	50,407	25,787	40,856	40,888	14·37
Padrauna	Sheep ..	28,953	28,651	27,910	27,794	26,904	7·07
	Goats ..	131,279	121,981	106,551	138,902	141,139	6·98

The number of cattle and livestock is also decreasing in the western tahsils. The following figures for Sadr would illustrate the fact :—

	1910.	1915.	1920.	1925.
Cows	56,372	54,846	50,517	..
Bullocks	109,372	112,321	105,896	110,291
Sheep	8,692	8,371	8,984	8,233
Goats	39,991	40,772	41,934	80,140

The deficiency in agricultural livestock indicates a critical situation in the agriculture of the district. The problem of cattle is vital for the Gorakhpur peasantry, and deserves careful attention from the hands of the economist and the administrator alike.

Acuteness of the cattle problem.

Deforestation has been going on and is still in progress in the district of Gorakhpur. Pasture lands are decreasing giving place to tilled fields of the farmer. This gradual clearing away and destruction of woods and jungles has restricted grazing. The progress of cultivation implies the use of every inch of available land and man is planting more and more of food crops instead of fodder due to the growing burden of population. The cultivation, of old fallow and the decrease in the area recorded as culturable mean a corresponding reduction of the area of pasture land—a circumstance which has made the solution of the cattle problem so difficult in these regions. Cattle are being neglected and the breeds instead of showing

any improvement are deteriorating. Man is in turn reaping the harvest of his past folly, and shows unmistakeable signs of decay both in physique and general stamina. The gradual deprivation of milch cattle robs him of some of the life-giving proteins, fat and carbohydrate, which once formed a vital element of his usual dietary.

Puny cattle in the district are more a burden to the farmer than an asset, and are incapable of adequate agricultural work. To preserve our cattle and improve their quality we must preserve pasturages and jungles. Thus the vital significance of village meadows and forests for agricultural development is brought home to us.

CHAPTER VII.

IMPROVEMENT IN CROPS.

Introduction of valuable and heavy-yielding crops.

The great increase in the population of the district has resulted in an all-round intensification of production. The introduction of valuable and heavy-yielding crop varieties is a notable factor in the agricultural development of the district. More and more of food is required to support the growing population, which can only be accomplished by a scientific and careful organisation of crops. The peasant in Gorakhpur has shown a considerable advance in this direction. This improvement in crops has contributed a great deal in preventing a fall in the standard of living. Besides paddy, which is the principal crop of the region, the cultivator has selected certain crops which yield him both money and food-stuff to support his increasing family.

Vidal de la Blache holds that the most densely populated tracts are those where rice is the chief crop, and he attributes this to the great nutritive power of rice. "It is a well-known fact," says Blunt "that the Indian cultivator looks in the autumn crop to a great extent as his food-crop, the one which will produce the actual food-stuffs which he and his dependents will eat. The spring crop he regards as the crop which will produce the money by which he will pay his rent or revenue, buy his clothes and his other necessaries, marry his daughter, and obtain other more expensive articles of diet than those he grows. In a word the *kharif* gives him bread, the spring crop gives him his other necessaries, including the cheese to go with the bread. So marked is this distinction that in some places that the revenue is divided into unequal instalments, accordingly, the *kharif* paying the lesser and the *rabi* the greater share."

There has been a great increase in the cultivated area and an improvement in the culturable area between the date of the last two settlements.

(In thousands of acres.)

	1889.	1919—1922.
Cultivated area	19·58	21·56
Culturable ,, ...	5·00	3·16

According to the Season and Crop Report for 1927 the total area was 2,889,930 acres. The forest area is 112,539 acres. The net cropped area is 2,149,796, while the total cultivated area is 2,149,796 acres.

Land is the only support of an agricultural community. Besides growing staple crops to provide for his growing family, the peasant has to grow certain commercial crops for the sake of money-returns without which he cannot improve his income or standard of living.

Directions of crop-improvement.

The chief improvements that have taken place in crops in the district are :—

(1) The substitution of cereals for gram and oilseeds.
(2) Increase in sugarcane area.
(3) Growth of pea cultivation.
(4) Increase in the area of maize.
(5) The substitution of rice for less valuable small millets.
(6) Increase of boro rice area.

The increase in the area of pea cultivation has solved to a great deal the problem of cattle-fodder. Peas are preferred to linseed as providing a better supply of fodder, and the crop retains fertility of soil for a very long period. The ordinary chaff is no good for cattle and is very deficient in albuminoid sugar, and digestible fibre.

The area producing boro has also increased considerably. This is a variety of rice which is transplanted into the mud in swampy river beds and on the edges of tals to ripen in the early hot weather. It is a heavy-yielding crop and its popularity has greatly increased.

Sugarcane is well known as a valuable crop. Most of the cane grown in the district is consumed by the various sugar mills. To the peasant the cane crop is very important. He pays off his debts after the cane season is over. Gur is prepared on a large scale in the district in the indigenous *karkhanas*, popularly known in the district as the "Chini ka karkhanas ".

Maize is now a very important crop, and its cultivation has increased rather rapidly especially in Deoria, Padrauna and Sadr sub-divisions. The crop reaches maturity at an early date and is less affected than other staples by premature cessation of the rains.

Crop improvements in tahsils Sadr, Maharajganj and Bansgaon between 1889 and 1919 have been in the following directions :—

Crops.	Total area in 1889.	Total area in 1922.	Percentage of increase or decrease.
Increasing.	Acres.	Acres.	Acres.
Wheat mixed	104,884	159,203	34·11
Peas and masur	82,517	108,799	24·15
Sugarcane	9,554	22,414	134·8
Early rice	313,652	458,878	46·3
Maize	15,951	17,825	11·7
Decreasing.			
Oilseeds	117,680	48,255	58·9
Gram	108,883	61,637	43·3
Late rice	111,267	101,263	8·9

In Deoria (Salempur Majhauli), Hata and Padrauna (Sidhua Jobna) the growth in cropping has been in these directions :—

Crops.	Area in 1889.	In 1922.	Percentage of increase or decrease.
Increasing.			
Wheat, mixed	252,865	254,923	·8
Peas	133,357	202,827	51·2
Maize	51,003	77,627	52·2
Sugarcane	85,376	100,099	17·2
Early rice	182,405	261,179	43·1
Decreasing.			
Linseed	57,713	33,421	72·6

Multiple cropping best witnessed in thickly-peopled regions.

Crop extension and betterment are seen best in places which have a very dense population. Taking Deoria alone, which has a density of 1,100 per square mile, being the highest in the district, we find that

the greatest crop improvement has taken place in that tahsil, as compared with other tahsils in the district :—

Crops.	Area in 1889.	In 1922.	Percentage of increase.
Peas and masur	32,443	65,184	100·9
Maize	10,142	15,184	49·7
Sugarcane	13,819	20,628	49·2
Madua and kodon	50,454	70,393	39·5

The total area under wheat in 1927 was 329,627 acres; of this no less than 248,319 was irrigated. Most of it was irrigated by wells. The total area under barley was 322,527, of which 212,529 was irrigated. Most of the area under wheat shows a great improvement over past years. The total area under maize was 85,517 acres. Sugarcane cultivation shows by far the greatest improvement. The total area under sugarcane was 137,821 acres in 1922-23. By 1926-27 13,984 acres were added to it, for the area recorded was 151,805 acres. Of this area no less than 75,974 acres were irrigated.*

Peas, maize and sugarcane pay more to the farmer than the old staples in bangar and bhat, which are the principal soils of the district. Sugarcane and peas show best result in bangar which is a favourite alluvial soil. Bhat is another soil of importance. The chief features of the soil are that it is retentive of moisture, and can produce rice crops without the aid of any irrigation. The ease with which it can be worked, its high germinating powers, and the remarkably high proportion of the carbonate of lime it contains make it an invaluable asset to the agricultural development of the region.

The question of profits is an important one so far as crops are concerned. Crops give different profits in different soils. Taken as a whole, the results come to this :—

Crops.	Profits per acre (less cost of labour and seed).		Profits per acre (the cultivator provides his own labour).	
	1913.	Present rate.	1913.	Present rate.
Bangar soil. (Medium stiff.)	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Early rice	30 1	62 8	36 8	63 15
Late ,, ...	34 1	66 8	47 0	72 14
Sugarcane	69 8	94 8	87 10	112 10
Peas	8 15	33 7	16 13	41 5
Wheat	33 12	98 1	58 5	122 10

* Season and Crop Report for 1927.

Crops.	Profits per acre (less cost of labour and seed).		Profits per acre (the cultivator provides his own labour).	
	1913.	Present rate.	1913.	Present rate.
Bhat soil.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Sugarcane	53 3	71 15	61 0	72 12
Maize	20 14	64 1	29 12	72 15
Early rice	15 6	35 11	20 5	40 10
Peas	10 2	28 12	15 12	33 6
Kodon	3 11	28 3	10 8	35 0

The profits under peas and cane are worthy of notice both in bangar and bhat soils. The profits, however, are greater in bangar than in bhat soils; wheat gives very good results in bangar. Maize gives equally encouraging profits in bhat oil.

The primary aim of the cultivator, as has been repeatedly said, is to produce enough food for his family. His next aim is to sow a sufficient area of money-crops, which will cover rent, buy his clothes, and a few luxuries and, if possible, pay the mahajan. Sowing of valuable as well as heavy-yielding crops increases his money returns.

Improvement in crops is an effort to combat the growing pressure of population. The increase in cultivated area as well as multiple cropping have kept pace with concentration of population in the district of Gorakhpur.

"Assuming that the average holding for a family of five is $2\frac{1}{2}$ acres, in the medium stiff soil if the cultivator sows 2 acres with early rice followed by pea and half an acre with cane, he would, working up by himself, have to put in 250 days of work in the year. In the light soil if he sowed Kodon and Arhar, rotating with barley in the whole $2\frac{1}{2}$ acres, he would have on the average only 150 days in the year."**

The cultivator is patient and content with very little, but his toil is not arduous, if he wants to, he can keep body and soul together on very little labour, and a great many are content to do so. Major J. C. Jack's description of Faridpur that "it supports a very considerable population in very considerable idleness"† is applicable to Gorakhpur.

Final Settlement Report 1919.

†Major J. C. Jack: "*Economic life of a Bengal district.*"

CHAPTER VIII.

Progress of Irrigation.

Crop-improvement and agricultural water-supply.

Gorakhpur can rightly boast of a bountiful rainfall, which besides seldom fails. The normal rainfall is 48·15 inches per year. The progress of agriculture depends entirely upon the rainfall. In districts where rainfall exceeds 40 inches, paddy is the dominant crop. The preponderance of rice crop, and the improvements in other valuable or heavy-yielding crops such as sugarcane, peas and maize vary directly with the relative progress of irrigation, which is remarkable in these tracts.

Tahsils.	Year.	Wells.	Other sources.	Total.
Sadr, Maharajganj and Bansgaon	1889	77,182	251,665	328,847
	1922	131,175	21,555	346,730
Padrauna, Hata and Deoria	1889	199,273	146,648	345,921
	1922	233,989	139,792	373,781

Extension of wells.

Out of the total irrigated area of 784,392 acres in the district, that irrigated by wells is 454,642 acres, while 329,750 acres are irrigated by other sources. The number of masonry wells available is 58,905, while those actually used is 50,203. The number of non-masonry wells actually used is 41,148 while those available is 41,665. No less than 1,881 new masonry wells were built during the year 1926-27. According to the Season and Crop Report for 1927, "Gorakhpur continues to maintain the first position in the matter of the construction of new wells and heads the list again with 1,881 wells. Azamgarh with 852 comes next, and Basti is third with 782."

One feature of this increase is the great extension of the area irrigated from wells, with which this district is honeycombed. To support the pressure of population a stable agricultural water-supply becomes indispensable. The cultivator, therefore, relies more on wells than on other sources for the purpose of irrigation, as they are more reliable than ponds, tanks or jhils which are liable to fail or to give a much

reduced supply in time of greatest need. The percentage of well-irrigated to total irrigable area in Gorakhpur district is 52.

Out of 305 acres, which is the total irrigated area in village Nonapar—

	Acres.
Wells irrigate	263
Ponds and tals	42

Wells form a principal feature in village irrigation system in the congested tracts.

The principal source of the village irrigation are the wells which are 49 in number, each well irrigating 6 acres of land on the average. All these are masonry wells. The other eight ponds and jhils irrigate 42 acres of village Nonapar and a considerable area of the neighbouring villages. The wells are of the greatest assistance in irrigating *rabi* crops.

Local sources of irrigation.

The indigenous sources of irrigation are :—

(1) wells,
(2) tanks or ponds (*pokhra*),
(3) jhils,
(4) the smaller streams.

The district is full of ponds or jhils popularly known as *pokhras* which are a prominent feature in the domestic economy of a village. The village tank is used for bathing by the villagers and its water is also used for miscellaneous domestic purposes.

The nearness of foundation clay. Wells made with ease.

The water level is 15 feet on the average from the surface. *Kachcha* wells are dug with great ease, while the *pucca* wells constructed are mostly percolation wells. The *kachcha* well is known as *chaura* and costs Rs. 4 or 5, while Rs. 50 to Rs. 80 are required to have a semi-masonry well.

Modes of irrigation.

The *moth* and bullocks are unknown; there could not be a more convincing demonstration that water is universally present within easy reach. Everywhere water is lifted from wells by means of *dhenkli*-and-bucket, a contrivance which could hardly be employed if water is more than 200 feet deep, and is most suitable for a distance of 15 feet. From tanks, jhils, ponds and minor streams, water is usually lifted to the required level by means of *benris*.

Well-irrigation has increased by leaps and bounds in the congested tahsils of Deoria, Hata and Padrauna, where a great improvement has taken place in agriculture, as the following figures will indicate :—.

Wells.		Total number of wells in years.					
		1905.	1910.	1915.	1920.	1925.	1926—27.
Hata ..	Masonry ..	11,601	11,681	11,951	11,973	12,062	12,062
	Non-masonry ..	6,771	6,875	7,409	7,925	7,444	7,508
Deoria ..	Masonry ..	14,725	14,901	14,987	15,239	16,584	17,307
	Non-masonry ..	1,956	2,070	3,811	1,843	2,066	2,298
Padrauna ..	Masonry ..	11,011	11,040	11,143	11,329	11,570	11,760
	Non-masonry ..	1,924	1,974	1,986	2,075	2,160	2,572

The tendency of increase in wells is not confined to Hata, Deoria and Padrauna but is also visible in the western tahsils of Sadr, Bansgaon and Maharajganj. The increase of wells in the Sadr tahsil has been as follows :—

Year.	Masonry wells.	Non-masonry wells.
1905	4,832	9,527
1910	4,945	9,974
1915	5,433	8,228
1920	5,499	12,675
1925	6,209	9,900

The percentage of increase of masonry and non-masonry wells in tahsil Sadr between the years 1905 and 1926 is 28·4 and 3·9 respectively.

Regulation of water-supply from the hill-streams.

One special characteristic which requires notice besides wells is the regulation of the water-supply from the hill-streams on the Nepal border in pargana Binaikpur of Maharajganj tahsil which serves to secure late rice.

Private canal system.

Dams have been constructed by means of which water is held up in the submontane streams and this is led by channels to the field. Another noteworthy feature is the effective canal system in the Lehra Estate which irrigates both rice and *rabi* crops. The most important supply is from the Srinagar reservoir which is formed by an extensive embankment with sluice gates constructed across the river Poa while

another embankment at the source of the Poa prevents spill water from the Rohin finding its way down the stream. The Molony Bandh from Gorakhpur down has protected a huge area from the vagaries of the Rapti which annually goes in floods and spells disaster on cultivation. Posterity would ever acknowledge with gratefulness this splendid humanitarian work of Mr. Molony, who was some time Collector of the district. The *bandh* is about 13 miles long.

In tahsils Maharajganj, Sadr and Bansgaon, irrigation is applied to about one-third of the whole cultivated area in a given year, but this does not give a true indication of the measure of protection enjoyed. As a rule, it is only the *rabi* crop which requires irrigation. A more true measure of the protection is the percentage of irrigated *rabi* area, which is practically 50. This figure also requires modification for not less than a fourth of the whole *rabi* harvest is raised in the Rapti and Gogra valleys where irrigation is practically never required. If omission is made of that area, it will be seen that in the upland nearly 70 per cent. of the *rabi* area can be watered in ordinary years.

In the eastern tahsils of Padrauna, Deoria and Hata where the onward march of population is best evident, there has been a decrease of 14 per cent. in the area covered with water. The village site has increased and more and more habitations have been built. Marshes have been reclaimed for cultivation. People in these tahsils rely more on wells than on other sources for irrigation. There has been an increase in the total irrigated area of 8 per cent. and in the area irrigated from wells of 17 per cent. Over 13,000 wells were constructed between 1889 and 1919—1922.

Much more than two-thirds of the total cultivated area is in the central plain or the ordinary banger of the district including forest border villages, little more than a fifth is in the bhat tract and about one-tenth in the kachhar and regularly flooded tracts. In the central plain full half the net cropped area and six-sevenths of the *rabi* area can be watered in a single season, and a larger area is watered from wells than other sources.

The progress of irrigation in the district between 1889 and 1919—1922 taken as a whole is shown below :—

——	Total in 1889.	Total in 1922.
From wells..	2·76	3·65
From ponds, jhils and minor streams	3·98	3·56
Total irrigated area in the district ..	6·74	7·21

These figures indicate an extension of well irrigation between the dates of the last two Settlements. Irrigation from ponds and jhils decreased from 3·9 to 3·56.

The district of Gorakhpur is, on the whole, well protected from drought and is so situated that it escapes the vagaries of the monsoon rainfall which cause occasional havoc further west. This fact clearly establishes the superiority of Gorakhpur, which besides enjoying the advantages of a more abundant rainfall is protected by an elaborate system of irrigation from wells and ponds; in western districts of the United Provinces the rainfall is much less, and agriculture depends mainly upon canal irrigation.

The peasant thinks, and rightly too, that his entire fortune depends on rainfall, on Indra, the great god of rain. Taking the province as a whole the irrigated area amounts to 30 per cent. of the total cultivated area. Of these 15 per cent. is irrigated from wells, 7 per cent. from canals and 8 per cent. from ponds, jhils and other resources. Wells constitute the principal agency of irrigation, supplying about 50 per cent. of the area irrigated, while canals provided for 20 per cent.

The eastern districts of Gorakhpur, Azamgarh, Jaunpur and Basti show a much larger irrigated area than the canal districts. To a bountiful rainfall in Gorakhpur have been added strenuous efforts made by man in the direction of the construction of wells. Well-construction is not so expensive a matter in Gorakhpur as in the districts of Muttra, Etawah and Agra, where the level of water is very deep. The drying up of ponds during the non-monsoon months is a great incentive in furthering the construction of wells. Water-logging, the increase of alkaline tracts, over-saturation which now form a serious menace to agricultural prosperity in the canal districts are not heard of in Gorakhpur.

The possibilities of well-irrigation are very great and a detailed enquiry for its extension in non-canal tracts is equally important.

CHAPTER IX.

THE EXTENSION OF DOUBLE-CROPPING.

The capacity of agriculture to provide food for the growing population depends upon the extent of land available as well as the pitch of cultivation. A striking feature in the agricultural progress of the Gorakhpur district has been the considerable increase in the *dofasli* (twice-cropped) area. Statistics show that the extent of double-cropped area was 361,404 acres in 1869-70. At the time of Mr. Cruickshank's settlement in 1889, the area was 591,707 acres. In 1919—1922 when the last settlement took place the total double-cropped area was 674,734 acres. This means an increase of 313,330 acres during fifty years.

The distribution of increase in the tahsils between 1889 and 1919—1922, the dates of the last two settlements, is worthy of notice :—

Sub-divisions.	Double-cropped a ea in 1889.	Double-cropped area in 1919-20.	Percentage of increase.
Western portion.			
Maharajganj, Sadr and Bansgaon ..	289,397	351,690	21·1
Eastern portion.			
Padrauna. Hata and Deoria	302,3 2	323,044	6·8

Maharajganj, Sadr and Bansgaon sub-divisions do not exhibit so large a proportion of the total *dofasli* area as do the sub-divisions of Hata, Deora and Padrauna, where the population is very dense and holdings are very small.

Rural density and double-cropping.

A significant correlation is found between the density of population in the district and the extent of double-cropping. The physical causes which determine the extent of double-croppng are the amount and distribution of rain, facilities of irrigation, and the nature and quality of the soil resources in different tracts. The pressure of population in Gorakhpur has its corresponding reactions on the system of crops. The cultivator instead of sowing one crop on his tiny holding reaps two crops (*rabi* and *kharif*) to make provisions for an adequate food-supply. Yet it is obvious that the *kharif* crop cannot be followed by a second crop of

rabi, if the soil is not possessed of adequate moisture, which in turn depends upon the amount and distribution of rainfall and the progress of irrigation. In other words the extension of double-cropping depends upon agricultural water-supply.

Rainfall in Gorakhpur is abundant, being 48·15 inches on the average in a year. Well-irrigation is extensive in the district, and there is a close correspondence between the irrigated as well as the double-cropped area.

Favourite soils.

Taking into consideration the soils of the *dofasli* areas, we find that double-cropping is least in the heavy clay lands and the sand or the raviny portions, and is most prominently found in the light rich alluvial kachhar lands liable to periodical innundations in which clay and loam are combined in almost equal proportions.

In tahsil Hata,. Padrauna and Deoria (Salempur) Majhauli, the increase between the last two settlements, 1889 and 1919—1922 is 27 per cent. The bangar soil shows a very large increase. This increase in bangar is due to two factors. The cultivator has met the growing pressure of the population by reducing the single-cropped area. Further, he has recognised the merits of the rotation of rice and peas. The cultivator has greatly augmented the area under peas, which contributes so much to maintaining the fertility of the soil. Rice followed by peas together shows a profit of Rs. 40 on the acre after allowing for the costs of seed and labour.

In pargana Salempur Majhauli (Deoria) where the density of population is 1,100, being the highest in the district, the double-cropped area has almost doubled itself. It has grown from 44,008 acres in 1889 to 82,701 in 1919—22 or from 15 to 28 per cent. It is interesting to compare the net cultivated and double-cropped area in the Deoria tahsil with some of the districts of the United Provinces.

District.	Net cultivated area.	Double-cropped area.	Density per square mile
Azamgarh	77·3	27·8	691
Benares	82·6	22·4	899
Jaunpur	76·0	21·1	745
Basti	80·3	26·8	687·1
Bulandshahr	80·8	25·1	5 0·1
Muzaffarnagar	75·5	8·9	479
Saharanpur	80·8	19·7	440
Meerut	82·4	1<·8	652 3
Sa'empur Majhauli (Deoria)	85·0	31·0	1,100

* In 1926.

The correspondence between a high density of population and extensive twice-cropping is a characteristic feature of the rural economy of Gorakhpur district. In the sub-Himalayan (East) division, the percentage of double-cropped to cultivable area is 29·3. This is higher than in any natural division of the province.

Utilisation of wastes and fallows.

As the result of the increase of population, the expansion of cultivated area in the district has been obtained by taking up old fallow lands and by utilising other waste areas. Even areas covered with water or marshes have been brought under the plough. In the western portion of the district, comprising Sadr, Maharajganj and Bansgaon sub-divisions the area recorded as "waste" at the time of Mr. Cruickshank's settlement in 1889 was 133,156 acres. At the last settlement of this portion, undertaken by Mr. D. M. Stewart in 1919—1922, the waste area was only 77,811, showing a decrease of 55,345 acres or of 14·56 per cent. During the same period, between 1889—1919, the old fallow area decreased from 136,201 to 67,449 acres. This means a decrease of 68,752 acres or of 50·47 per cent. Village sites increased from 21,965 acres to 25,210 acres. The area covered with water was 82,166 acres in 1889. In 1919—1922 the same area was 29,664 acres. This shows a decrease of 15,650 acres or of 19·04 per cent. The area recorded as "otherwise barren" decreased from 35,927 acres in 1889 to 29,664 acres in 1919—1922.

Utilisation of wastes and other lands is as prominently seen in the eastern portion of the district, comprising the tahsils of Deoria, Hata and Padrauna, as in the sub-divisions of Sadr, Maharajganj and Bansgaon which constitute its western portion. The old fallow land decreased from 139,951 acres in 1889 to 69,268 acres in 1919—1922. In 1889 the area covered with water was 50,647 acres. When the last settlement took place in 1919—1922, it was found to be 42,798 acres. There has been, therefore, a reduction of 7,849 acres. Village sites increased from 23,200 acres to 25,011 acres.

The extension of double-cropping and the utilisation of waste-lands mean both an intensification of cultivation as well as an extension in the potentialities of production. To quote Mr. B. N. Ganguly "Extensive double-cropping might operate as a safety-valve under the pressure exerted by the increase of population."**

**"Double-cropping in certain regions of over-population," by Mr. B. N. Ganguly, of the Department of Economics, Dacca University—a paper submitted to the Indian Economic Conference held at Lucknow in January 1928.

CHAPTER X.

Rural Housing.

Few will deny that the housing of the rural population is a serious problem. Judged by modern standards, the houses of the agriculturists are both poor and insanitary. The decay of the village communities has meant the decay of the country cottage. The average villager is ignorant and illiterate. He is totally lacking in the knowledge and requirements of what housing ought to be.

Pressure on the accommodation in the cottages is the main characteristic of housing in the villages due to the phenomenal increase of population. Rural landscape is dotted here and there with compact villages, the homes of a rice-growing community. The cultivator of the soil has shown a decided improvement in cropping by the introduction of certain valuable and heavy-yielding crops. He has increased the gross outturn of his fields, and works harder, but has grossly neglected his own living conditions. The entire energy of the peasant has been employed in filling up his stomach and that of his family. The shabby, poorly built hut has been, and still is, the home of the peasant.

Houses are clustered together at all angles in a congested space. Naturally overcrowding of an appalling character is rife. To an average cultivator houses are simply places where one could stretch his legs and sleep in the night. Improvements in structure or in quality, he regards as decorations. The huts which are made of mud walls with thatched roofing, consist of only one room, which is a parlour, dormitory, kitchen, pantry and in many a case cattle-shed combined into one. There is only one door to enter in. Villagers who mostly work outdoor bare-footed bring dirt with them when they return after the day's work, and dust accumulates inside the huts. There is no adequate provision for ventilation. The cottages are mostly damp and insanitary. Being huddled up, there is insufficient air space. Cots on which the villagers sleep constitute the only furniture inside the cottages. There are, however, hundreds of houses, the occupants of which sleep on the ground as they do not possess cots.

Houses have gone on increasing in the district as the following figures would illustrate, but they provide shelter, not comfort, and are a despair for the sanitarian.

Year.	Average number of houses per square mile.	Density of population per square mile.
1881	98	574
1891	110	657
1901	112	649
1911	132	707
1921	135	722

The average number of persons living in a house in 1881 were 5·8. In 1891 there were 5·9 persons. The year 1901 shows less overcrowding for the figure is 5·7. In 1911 there were 5·3 persons on the average living in one house. Congestion in the cottages has not lessened at all, although the number of houses has gone on increasing enormously. The increase in the total number of houses has not kept pace with the expansion of population.

In the Sadr sub-division, excluding Gorakhpur municipality and the notified area, there are 93,015 houses, sheltering a population of 506,826, the average number of persons living per house being 5·4. Bansgaon has 82,251 houses inhabiting 440,898 people giving an average of 5·3 persons to each house. In Hata there are 88,333 houses supporting 492,995 people. The average here comes to 5·5 persons in one house. In pargana Salempur Majhauli, excluding Deoria town, there are 93,814 houses. The persons living are 492,906. The average comes to 5·2. In Sidhua Jobna, excluding the town of Padrauna, 120,210 houses support 653,093 persons or 5·4 persons on the average per house. The huge tahsil of Maharajganj which shows no congestion of population has 115,791 houses. The number of persons living there is 609,323 giving an average of 5·2. According to the census of 1921 the average number of persons living per house in the district is 5·4.

Villages have swelled in size without any regard to uniformity and harmony and attention has not been paid even to the very rudiments of planning. Scattered houses are rare. Cottages are thickly massed and huddled up.

The aggregation of homesteads gives rise to the very acute phenomenon of congested villages. The enlargement of families has necessitated a partition in the house-sites, with the result that cottages have

become more and more sub-divided, losing decency and spaciousness altogether. Disease and sickness, therefore, find a ready welcome in them.

The evil of congested huts is best seen in Deoria and Hata, where the population is very dense, by a study of housing conditions in certain villages. In *Village Hatwa* Nikohni, tappa Bhatni, tahsil Deoria, out of a total number of 320 houses, there are about 40 huts with the dimensions 8 feet by 13 feet by 5 feet. One house which I visited, the dimensions of which were 7 feet by 13 feet by 5 feet, was found occupied by 5 persons. The occupants were a potter, his, wife, son, daughter-in-law and grandson—all packed into one. The potter told me that he kept his goat inside at night, as there was no space outside. What a noxious atmosphere they breathed! There is only one entrance to the hut. Another cottage, with dimensions 9 feet by 14 feet by 5 feet, also belonging to a potter, was occupied by him and his wife and three children. Besides he keeps his bullock and materials inside. The inmates of these huts were thin, disease-ridden and dirty.

Disease and sickness are rife in such huts and there is a total absence of decency. All sense of privacy is lost as a result of insufficient accommodation.

In *Village Chandauli*, tappa Bhatni, tahsil Deoria, there are 32 houses. The population according to the census of 1921 is 258. The average number of persons living in each house is 8. The huts are small, ill-thatched, ill-ventilated and dark. The dimensions of the average hut are 10 feet by 18 feet by 6 feet.

Homesteads are very much congested in Hata tahsil as well.

In *Village Amwa*, pargana Silhat, thana and tahsil Hata, eleven houses support a total population of 127. The average number of persons living in a hut is 11·5. Huts being small an inadequate, the inmates sleep outside under the trees or have put up temporary sheds under which they do their daily work.

In *Village Bhuira*, pargana Haweli-Gorakhpur, thana Captainganj, tahsil Hata, there are only 19 houses. The population is 118 or 9 persons on the average in one house. I found everybody in this village keeping cattle inside the huts. Cattle urinate inside, polluting the entire hut and creating a very foul atmosphere.

Houses in tahsil Sadr (Gorakhpur) seem to be somewhat better, although in many cases serious overcrowding is found.

Village Lhasri.

Village Lhasri.—This village is four miles south of Gorakhpur on the banks of the Rapti. One one side of the village is the river Rapti, and on the other side is huge Ramgarh Tal. Everey year during the rains the Rapti goes in flood. The water of the river escapes into the Tal, with the result that the level of water in the Tal rises. The village is then to choose between the devil and the deep sea. Small cottages are met everywhere in the village. Big and spacious huts are rare. The houses are mostly temporary sheds. The average dimensions of a hut are 10 feet by 15 feet by 6 feet. I visited this village in July when the rainy season was in its full swing. I found serious overcrowding in the houses. In some huts I was shocked to see 11 or 12 persons huddled up, living more like dogs than men.

Congestion is met both in Bansgaon and Padrauna, but is not the rule as in Salempur Majhauli (Deoria) and Hata. More and more breathing space is met as we go north. In tahsil Maharajganj, huts are comparatively bigger, and greater space is allotted to them.

The average area occupied by a homestead in the district also varies with density and prosperity. A prosperous family builds larger huts and more of them. The houses of high castes are more commodious, more decent and better built, while those of the lower castes are small, ill-built, low-roofed, and ill-ventilated.

With the increase of population, there has been a greater and greater pressure on the accommodation in the cottages.

Year.	Average number of persons living in one house.
1881	5·8
1891	5 9
1901	5·9
1911	5·3
1921	5·4

Speaking of Bengal homesteads, Professor Radhakamal Mukerjee says "In Bengal the houses in which peasants live are usually grouped round a spacious courtyard, cowsheds, and outhouses standing sometimes in the same quadrangle, but more often a little back from it. The area given up to gardens is much larger in Bengal than elsewhere." Huts in Gorakhpur are planned on a totally different footing. They are situated close to one another, with narrow lanes between them. There are no regular cowsheds or outhouses. Cattle are kept outside only when

space is available otherwise both men and cattle share the same habitation. Little gardens which so lend beauty to country homes are absent. Groves of fruit trees are met here and there in the villages, yet no particular care is taken of them.

House-sites in Gorakhpur represent a very low standard of living conditions. Though villages on the whole are less unhealthy than the congested towns, epidemics are recurrent, and the problem of public health is as much a rural as an urban question. We have to provide the village with a sanitary and decent dwelling and to dismantle the rural "slums", as they may be pertinently termed.

The tendency of tiling the roofs of houses is manifesting itself in many localities. Tiled roofs do not require renewal every year, and afford better protection against rainfall, which is very heavy in this region.

A sound test of a country's civilisation may be found in the standard of dwelling. A study of housing would be a study of the lives and habits of a particular country. A man's home radiates an influence which, for good or evil, profoundly affects the entire fabric of his life. It is a training ground in propriety, in ideas or comfort and in aesthetic ideals.

The health staff of Gorakhpur is carrying on a regular propaganda on hygiene and sanitation in the congested rural areas.

CHAPTER XI.

THE STANDARD OF LIFE.

The district is wholly agricultural and congested. According to the calculations of Pandit Shyam Behari Misra, the average area in acres per cultivator (intensive) in the district is 1·3 acres. The recorded figures in the Settlement Report of the Gorakhpur district (tahsils Padrauna, Hata and Deoria) make the average holding less than an acre; in Padrauna it is 1·3 acres, in Hata it is ·9 and in Salempur Majhauli it falls to ·65 acre. The produce of 1 acre has to support 1·3 persons in the most congested tracts. Mr. J. H. Kerr writing in the Settlement report of Saran district published in 1903, calculated that a moderate subsistence holding for a family of five is 2½ acres. In pargana Salempur where the density ranges at 1,100 per square mile, and the average holding is less than an acre, there is little margin to spare.

The smaller the holding, the greater the family labour per acre. A very large number of persons emigrate to the commercial cities of Calcutta and Karachi and to the other distant provinces and cities. Wages are absurdly low throughout the district. The eagerness to migrate, which is displayed by so large a number of people, is due to the increase of population and the consequent shrinkage of holdings.

There has been a great development of agriculture during the last century. Population has increased enormously and the whole area has rapidly come under the plough though fever, cholera, and plague in certain years take a heavy toll of population. The expansion has been somewhat haphazard, and though in the sum total there has been a vast increase of wealth, it is open to doubt whether the average individual is better off than before.

In 1911 the percentage of births in the district was 38·1 while that of deaths was 30·2. This shows an excess of 7·9 births over deaths. At the last census of 1921, carried on by Mr. E. H. H. Edye, the number of births in the district was 1,220,130. The deaths during the same period were 967,567. This means an excess of 252,563 births over deaths.

Dr. Harold H. Mann who made a special study of the economic conditions of rural areas and who was for nearly a quarter of a century in intimate touch with agrarian problems says, "No country could ever hope to be prosperous if the majority of the population were idle for five-six months of a year. The people must be given some work, no matter how small the income derived therefrom, during the dry season". The district entirely lacks in cottage industries which add a new and adequate income and which provide for the overflow in cultivating families. Agriculture supports about 95 per cent. of the population residing in the countryside. Land has been taxed more and more, and no efforts have been made to develop any industries. A few sugar-mills, established here and there in an enormous agricultural tract as that of Gorakhpur, cannot possibly provide sufficient work to so large a number of unemployed agriculturists during off-seasons or bad harvests.

Indebtedness is a condition which varies much from village to village. Mr. K. N. Knox, I.C.S., made enquiries in a number of villages in north Padrauna, and found that about two-thirds of the tenants got along without borrowing at all. In other cases, the debts did not exceed the value of cane crops. Still others were found, who owed two or three times the value of the cane crop. Peasants borrow money and pay it up after reaping their cane crop. The introduction of valuable and heavy-yielding crops has lessened agricultural indebtedness to a very great extent. Mr. O'Byrne, Assistant Settlement Officer, had similar experiences in south Padrauna. Most of his informants had two or three meals a day besides a morning snack.

There are many unfortunate villages, especially in Hata sub-division, where the village folk have fallen a prey into the clutches of an obnoxious type of moneylenders, popularly known as *harihar log*, who hail from Saran and neighbouring districts, and are mostly Brahmins or Goshains. Their operation is known as "*Pachania*" or "*Chhiyania*". The minimum interest they charge in the season is 5 or 6 annas in the rupee. "Their *modus operandi* is to offer small loans at the sowing season, and to return at harvest with a posse of retainers; these proceed to live on their clients for a few days while the first debts are being collected; and then the company goes on to another, to return again when they have completed their round; this process continues for some months, and as the debts grow harder to collect, they lengthen the period of their free board and residence. They contract very few bad debts, and rarely have recourse to the law court. This course is much widespread. Such methods require a peculiar combination of tact and terrorism on the part of the moneylenders."* The ubiquitous agency is the village maha-

*K. N. Knox : "*Final Settlement Report.*"

jan who carries on a brisk trade in areas where *pattidari* tenure preponderates. Such examples would be found in Bansgaon and Deoria.

Efforts have been made to combat the evils of indebtedness, and to check the borrowing propensity of the peasant by the spread of the "healing and uplifting" doctrine of Co-operation, which is intended to encourage "small and simple credit societies for small and simple folk with simple needs" and which may ultimately "lead to a revival of the corporate village life which has been so much weakened by the disintegrating influence of modern life."*†

Some very good societies have been formed, and they have been successful in gaining the confidence of the peasants. There is an agricultural bank in Padrauna run by the Raja of that place, who lends money to his tenants at a comparatively low rate of interest. The co-operative bank at Kasia finances a number of societies, of which the bulk are situated in Padrauna, others are in Hata and Deoria. There is a district bank at Gorakhpur. There still remains much to be done; co-operative societies formed on right lines can do wonders in improving the economic and social life of the cultivators.

It would not be out of place to describe the life of people of the district. Rainfall being abundant, rice is the principal crop grown and the staple food of the people. From the wealthy zamindar down to the poor peasant, all eat rice. The eastern districts are the rice granaries of the province. Rice, as compared with wheat, is less nutritive, and is cheaper. Owing to the deterioration of milch cattle, the consumption of milk and milk products has declined. Curd mixed with pressed rice—*dahi* and *chura*—constitute the delicacy of the masses.

Vegetable and fruits do not form a part of a villager's diet, who is content with his *dal* and *bhat* and wants nothing more. Grove areas have decreased in the district. The favourite pulse is *arhar*. Vegetables grown in the countryside are brought over to the city, or to the periodical village markets, where they fetch a higher price.

Fishes which are plentiful and good especially in the rains and early cold weather, provide a considerable addition to food-supply. On the innumerable ponds and puddles in the rainy months, thousands of persons are seen engaged in catching fish. Markets during the rainy season are flooded with fish, which is sold very cheap.

According to a Punjabi proverb, "He that eats a seer works like a lion, but he that eats only a quarter of seer works like asses (*Khave*

*K. N. Knox : "*Final Settlement Report.*"
†Government of India Resolution on Co-operation.

ser kamave sher, khave pa kamave swah)." The peasant has to live by his hands and to support a family of about 6 persons; consequently he requires a substantial diet. Working twelve hours a day during the harvest he depends on his usual simple and frugal fare. Yet the rice-eater has mettle in him. With his low physique, he combines in himself a great capacity to endure hardships and he is found toiling ceaselessly in his farms and proves equal to any emergencies.

With rice, the principal crop, the cultivator in Gorakhpur has introduced certain other valuable and heavy-yielding crops such as sugarcane, peas, gram, etc., to serve as money-assets for his growing family. People in the district are not starving but the standard of living is low.

People in Gorakhpur do not seem to feel the need of clothes so much. The climate is damp and moist. The peasant wears only a *dhoti* and nothing else. A turban, *angarka* and *dhoti* form the full dress of a villager. In winter simply a *chadra* is worn with the *dhoti*. Clothes are generally washed in *pokhras* or ponds by villagers themselves. Shoes made by the village cobbler are put on universally. Women wear a *dhoti* or *sari* and short jackets. Skirts are not so much in vogue as in the western districts of the United Provinces.

A study of housing conditions has already been made in a previous chapter. Overcrowding in cottages is met all over the district due to the dense population. The only improvements seen in the houses in rural areas are that the cultivators are replacing the thatched roofs by tiles, and are extending the huts to have a short verandah on the face. The peasant although paying rent to a zamindar for the use of land, always builds his own house at his individual expense. This is true of all grades of cultivators, poor or rich. Not one cultivator in a hundred resides in a rented house, or even in house not constructed by himself. Rice cultivation requires an outdoor life. The peaasnt being away from his home for a considerable period in his fields, scattered in all directions round the village, and sometimes at a considerable distance, does not get time to look after his hut. This coupled with his apathy towards sanitation results in terrible congestion under the enormous pressure of population on accommodation in village sites.

The increase of population in Gorakhpur has led to the acquisition of occupancy rights. Fifty-eight per cent. of the holdings area in tahsils Deoria, Hata and Padrauna, is in the hands of occupancy tenants. Their holdings have increased by 34 per cent. since 1889. The proportion of tenant's holdings in their possession varies between 71 per cent. in Padrauna and 88 per cent. in pargana Shahjahanpur of Hata

sub-division; in most cases it is well over 80 per cent. but on the other hand nearly a quarter of the holdings area is included in proprietor's holdings. In Silhat, Hata and Salempur Majhauli (Deoria) the proportion goes up to 29 per cent. and 35 per cent. respectively.

In tahsils Maharajganj, Sadr and Bansgaon, which form the western portion of the district, the area held in occupancy tenure is nearly double that held by tenants without the right of occupancy, and has increased by 45 per cent. since 1889. Naturally, therefore, the portion held with occupancy rights is larger in Bansgaon, Hata, Deoria and Padrauna, the southern and western portions of the district which show a great progress in cultivation than Maharajganj and the eastern portion of tahsil Sadr, which are ongested with forest area.

There is a correspondence with the order of density and the rental incidence.

Rental incidences per acre in rupees.

	Deoria (density 1,100).	Padrauna (density 86).
Old occupancy, unenhanced	3·5	4·0
Old occupancy, enhanced	4·7	4·2
Occupancy over 20 years	4·2	3·9
Occupancy over 12 years ..	4·1	3·7
Non-occupancy	4·6	4·1

It is thus that climate, rainfall, crops, rural density, holdings and rents are found to be inextricably interwoven in the Gangetic Plain. Man seems here to be a part of the land, a change in the feature of the land surface or in the normal temperature and water-supply creates a change in the whole fabric of social life.*

* Mukerjee: "*The Regional Balance of Man*," American Journal of Sociology, November, 1930.

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